

## TWO NEW SPECIES OF SYLLIDS (POLYCHAETA: SYLLIDAE) FROM THE CHAFARINAS ISLANDS (ALBORAN SEA, SW MEDITERRANEAN)

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### ABSTRACT

Two new species of syllids are described. *Pionosyllis serratisetosa* (Syllidae, Eusyllinae) is characterized by having blades of compound setae with strongly curved subdistal teeth, acicula with a crown of fine spines, and dorsal cirri alternating short and long. *Autolytus longoprimitiratus* (Syllidae, Autolytinae) is characterized by large size, long dorsal cirri, especially those on setiger 1, and a long pharynx and proventriculus.

The Chafarinas Islands are a small Spanish archipelago located close to the Mediterranean coast of Morocco, in the Alboran Sea. Although there are many works devoted to the study of polychaetes from North Africa, most of them deal with the Atlantic coast (Fauvel, 1936; Rullier and Amoreux, 1969; Bayed and Glemarec, 1987) or Strait of Gibraltar (Amoreux, 1976); also some works are on the nearest southern coasts of Spain (Rodríguez *et al.* 1980; Sardá, 1984; 1985; 1986; 1987; Acero and San Martín, 1986). The only papers devoted to the Mediterranean coast of North Africa are those by Westheide (1972), Cantone *et al.* (1978) and Zghal and Ben Amor (1980), all devoted to the Tunisian coast.

From February, 1991 to July, 1993 four expeditions to the Chafarinas Islands were undertaken to sample marine invertebrates, chiefly polychaetes, nemertines, isopods, and pycnogonids. The samples were taken from algae and some animal substrates by scuba diving, between surface and 40 m. This paper is the first of a series on polychaetes from the Chafarinas Islands. The list of polychaete species found includes 225 species. Here we describe two new species of syllids: *Pionosyllis serratisetosa* and *Autolytus longoprimitiratus*.

Descriptions, measurements, and figures have been prepared with a compound microscope provided with differential interference-contrast (Nomarsky) optics and a camera-lucida drawing tube. Measurements are reported from holotypes, length measurements do not include antennae and anal cirri; width measurements were taken across the proventriculus and do not include parapodia, setae, or dorsal cirri.

Holotypes of both type series are preserved in 70% ethanol; all paratypes of *Autolytus longoprimitiratus* and some of *Pionosyllis serratisetosa* also are preserved in 70% ethanol, the remaining paratypes of *P. serratisetosa* are preserved on permanent microscopic slides in glycerine jelly. The two complete type series are deposited in the Museo Nacional de Ciencias Naturales de Madrid (MNCNM), Spain.

### RESULTS

Family Syllidae Grube, 1850  
Subfamily Eusyllinae Rioja, 1925  
Genus *Pionosyllis* Malmgren, 1867

*Pionosyllis serratisetosa*, new species

Figure 1

*Pionosyllis* sp. Baratech and San Martín, 1987: 44, figs. 4–5.

*Material Examined*.—Congreso Island, on *Udotea petiolata* –25 m, holotype, slightly contracted. Congreso Island, on *Udotea petiolata* –6 m, 5 paratypes on permanent slides. Congreso Island, on pho-

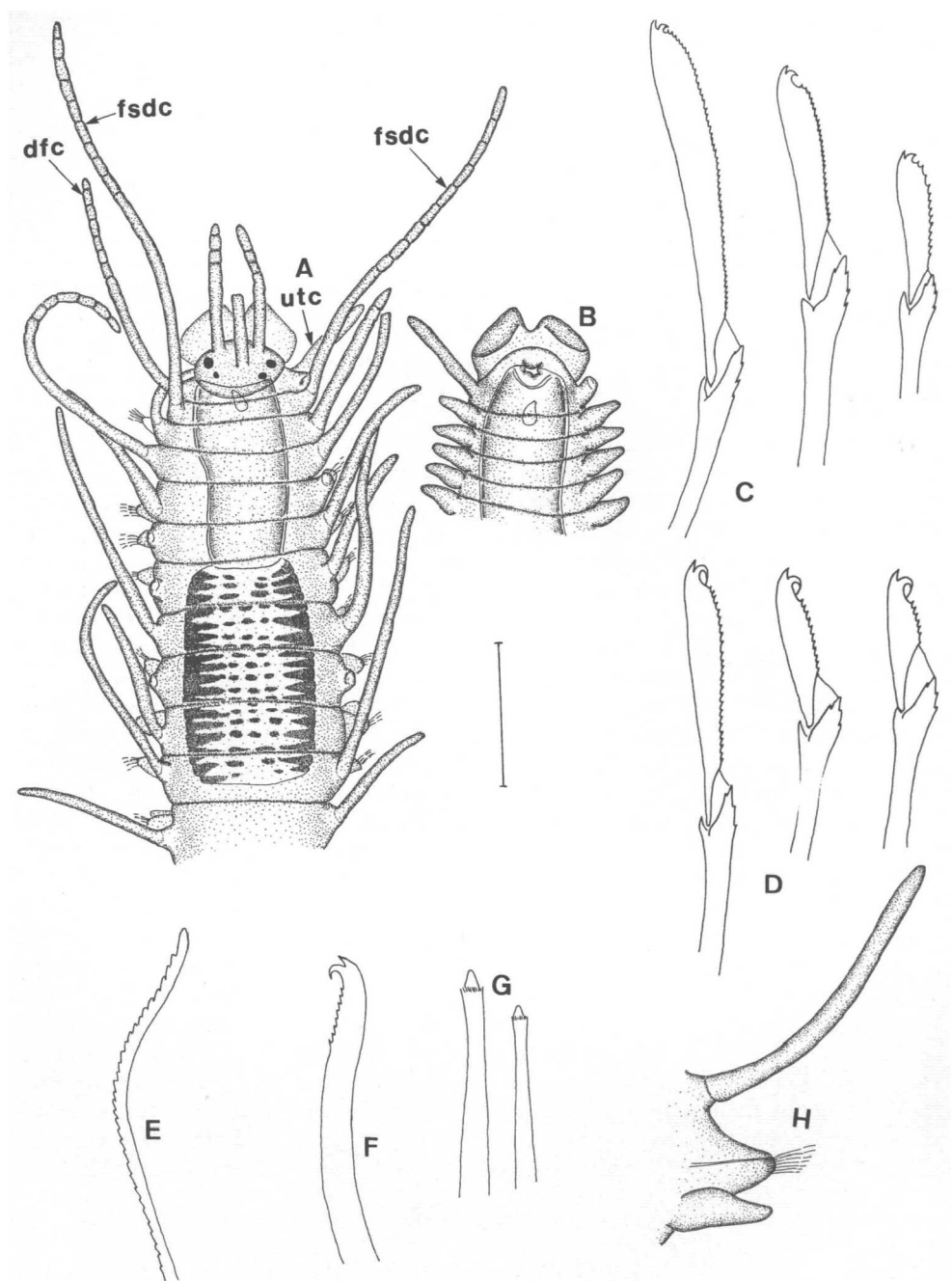


Figure 1. *Pionosyllis serratisetosa* n. sp. A. Anterior end, dorsal view (dfc = dorsal tentacular cirrus; utc = ventral tentacular cirrus; fsdc = first setiger dorsal cirrus). B. Anterior end, ventral view. C. Superior, median, and inferior compound setae, anterior parapodium. D. Same, median parapodium. E. Dorsal simple seta. F. Ventral simple seta. G. Acicula. H. Median parapodium. Scale.—A, B = 0.38 mm; C–G = 15  $\mu$ m; H = 0.2 mm.

tophilic algae –8 m, 1 paratype on permanent slide. Congreso Island, on *Vidalia volubilis* (?) –20 m, 2 paratypes in 70% ethanol. Congreso Island, on *Peyssonnelia squamaria* –6 m, 1 paratype in 70% ethanol 70%. Isabel II Island, in *Cladocora caespitosa* blocks –15 m, 3 paratypes in 70% ethanol.

**Description.**—Body long, all incomplete specimens except one juvenile, without color markings after preservation; holotype 1.52 mm long, 0.44 wide, 12 setigers. Prostomium (Fig. 1A) oval, wider than long; four eyes in open trapezoidal arrangement, anterior pair somewhat larger than posterior one. Palps fused at bases, broad, with tips downwards (Fig. 1A, B). Median antenna originating in middle of prostomium, incomplete or missing in all specimens; lateral antennae originating in front of anterior pair of eyes, weakly articulated distally, smooth basally, somewhat longer than prostomium and palps together. Two pairs of tentacular cirri (Fig. 1A) on tentacular segment; dorsal pair twice as long as lateral antennae and weakly articulated distally; ventral pair smooth and much shorter. Dorsal cirri of setiger 1 very long, weakly articulated in the distal half; dorsal cirri from setiger 2 alternating between short (shorter than body width) and long (1.5 times longer than body width), smooth from setiger 4; inserted on a short cirrophore slightly above parapodial lobe (Fig. 1H). Ventral cirri shorter than parapodial lobe. Parapodial lobe short and rounded (Fig. 1H). Anterior parapodia with up to 18 compound heterogomph setae; strong dorso-ventral gradation in length of blades (dorsalmost 40  $\mu\text{m}$ ; ventralmost 18  $\mu\text{m}$ ); all blades bidentate, with subdistal tooth strongly curved, a slight serration on the cutting edge of the blade, and fine spinulation at the end of shaft (Fig. 1C). Number of compound setae decreases posteriorly (up to 9); blades shorter (27  $\mu\text{m}$  dorsalmost, 14  $\mu\text{m}$  ventralmost), stronger serration and more curved subdistal tooth reaching cutting edge (Fig. 1D) of blade in median and posterior parapodia. Solitary dorsal simple seta from setiger 12, very narrow and slightly serrated (Fig. 1E), only seen in one paratype. Solitary ventral simple setae only on most posterior parapodium, bidentate, with strongly curved subdistal tooth, serrated, and similar in width to shaft of compound setae (Fig. 1F). Acicula (Fig. 1G) straight, with a subterminal crown of fine spines; paired until setiger 10, solitary posteriorly. Pygidium only in one juvenile paratype, with a pair of long, smooth anal cirri. Pharynx (Fig. 1A) broad, extending through 6 setigers; pharyngeal middorsal tooth near anterior margin. Proventriculus (Fig. 1A) barrel shaped, extending through about 4½ segments, with 18 rows of muscle cells.

**Remarks.**—*Pionosyllis serratisetosa* n. sp. is characterized by the shape of the blades of the compound setae, with a strongly curved subdistal tooth. Only a few species in the genus have similar subdistal teeth. *Pionosyllis longocirrata* Saint-Joseph, 1886 (San Martín, 1984 as *P. morenoae*), from the French Atlantic coast and western Mediterranean, have longer blades, which lack the distal teeth on median and posterior parapodia, acicula without the crown of spines, and a comparatively larger pharyngeal tooth. *P. templadoi* San Martín, 1991 (San Martín, 1991) from Cuba, has similar compound setae but with smaller distal teeth, tricuspid acicula, and pharyngeal tooth located in the middle of pharynx. *P. luquei* San Martín, 1990 (San Martín, 1990), also from Cuba, has the most similar blades, but has tricuspid acicula, a massive pharynx, the pharyngeal tooth located in the middle of pharynx, and dorsal cirri all short and smooth. *Pionosyllis* sp. Campoy, 1982 (Campoy, 1982), from the Mediterranean Spanish coast, is also very similar, but it has blades with much smaller distal teeth. *Pionosyllis* sp. C Uebelacker, 1984 (Uebelacker, 1984), from the Gulf of Mexico, has a massive pharynx, with a comparatively larger, posteriorly located tooth. Only one specimen of the new species have solitary dorsal simple setae, but this can be expected since the level

of appearing simple seta have great intraspecific variability in genus *Pionosyllis* and most of the specimens are incomplete.

*Etymology*.—The specific name *serratisetosa* means saw shaped and refers to the shape of compound setae blades, which is very similar to a hand-saw.

Subfamily Autolytinae Rioja, 1925

Genus *Autolytus* Grube, 1850

*Autolytus longoprimitus*, new species

Figure 2

*Material Examined*.—Isabel II Island, in *Cladocora caespitosa* blocks –15 m, holotype and 2 paratypes, in 70% ethanol.

*Description*.—Body long and slender, 15 mm long, 0.38 mm wide, 113 setigers (lacks posterior end); each segment dorsally provided with two transversal bands of refrigent spots, one at the anterior margin and other at the posterior margin. Prostomium (Fig. 2A) oval and slightly wider than long; palps small and fused, with a dorsal furrow; two pairs of large eyes (Fig. 2A) with crystalline, anterior pair somewhat larger than posterior pair; antennae originating near anterior prostomium edge, long, and similar in length, reaching level of setiger 10. Peristomium dorsally covered by prostomium; with a pair of long nuchal epaulettes (Fig. 2A), reaching setiger 3, which are difficult to see; dorsal tentacular cirri (Fig. 2A) long, reaching setiger 13; ventral tentacular cirri slightly longer than midbody dorsal cirri. Dorsal cirri of setiger 1 (Fig. 2A) very long, reaching level of setiger 25; typical dorsal cirri long, with acute tips, similar in length to body width. Parapodial lobes rounded and prominent, provided with dark glands; number of compound setae decreases posteriorly (up to 8 on anterior parapodia, up to 5 on posterior ones); blades (Fig. 2B, D) short, with distinct distal tooth, larger and straight subdistal tooth, and fine spines on cutting edge; slight anteroposterior gradation in length of blades (10  $\mu$ m on anterior parapodia, 7–9  $\mu$ m on posterior ones); shaft with rounded and spinous end. Dorsal simple setae (Fig. 2F) bayonet-shaped, slender, narrower than compound setae shafts, provided with fine subdistal serration, present from setiger 57. Acicula paired (Fig. 2C) on anterior parapodia and solitary (Fig. 2E) from setiger 45; all with rounded and slightly oblique tips. Pharynx (Fig. 2A) long and narrow with only one situation, extending from setiger 3 to 16; trepan (Fig. 2G) with about 38 small, equal teeth. Proventriculus (Fig. 2A) elliptical and very long, extending through 5½ segments, with 36 muscle cells rows.

*Remarks*.—The only species with long pharynx and dorsal cirri in European waters is *Autolytus prolifer* (Müller, 1788) (Gidholm, 1967; San Martín, 1984); but it is much smaller (reproductive specimens cited by Gidholm measured 3–7 mm), has a much shorter proventriculus (extending through 3 setigers), and blades of compound setae that are shorter and wider. Parapar (1991) described specimens of *A. brachycephalus* (Marenzeller, 1874) from north-western Spain very similar to the new species in body shape and color, parapodial glands, and pharynx and proventriculus shape, but possessing clearly unequal trepan teeth. *A. juvenudensis* San Martín, 1994 (San Martín, 1994), from Cuba, also has long dorsal cirri, but has a longer pharynx, with several situations, and a shorter proventriculus. *A. magnus* Berkeley, 1923, from North Pacific (Alaska, Japan) (Imajima and Hartman, 1964; Imajima, 1966), is very similar in body shape and measurements, cirri, pharynx, proventriculus, and trepan, but it has straight acicula and compound setae with both teeth similar, long and curved.

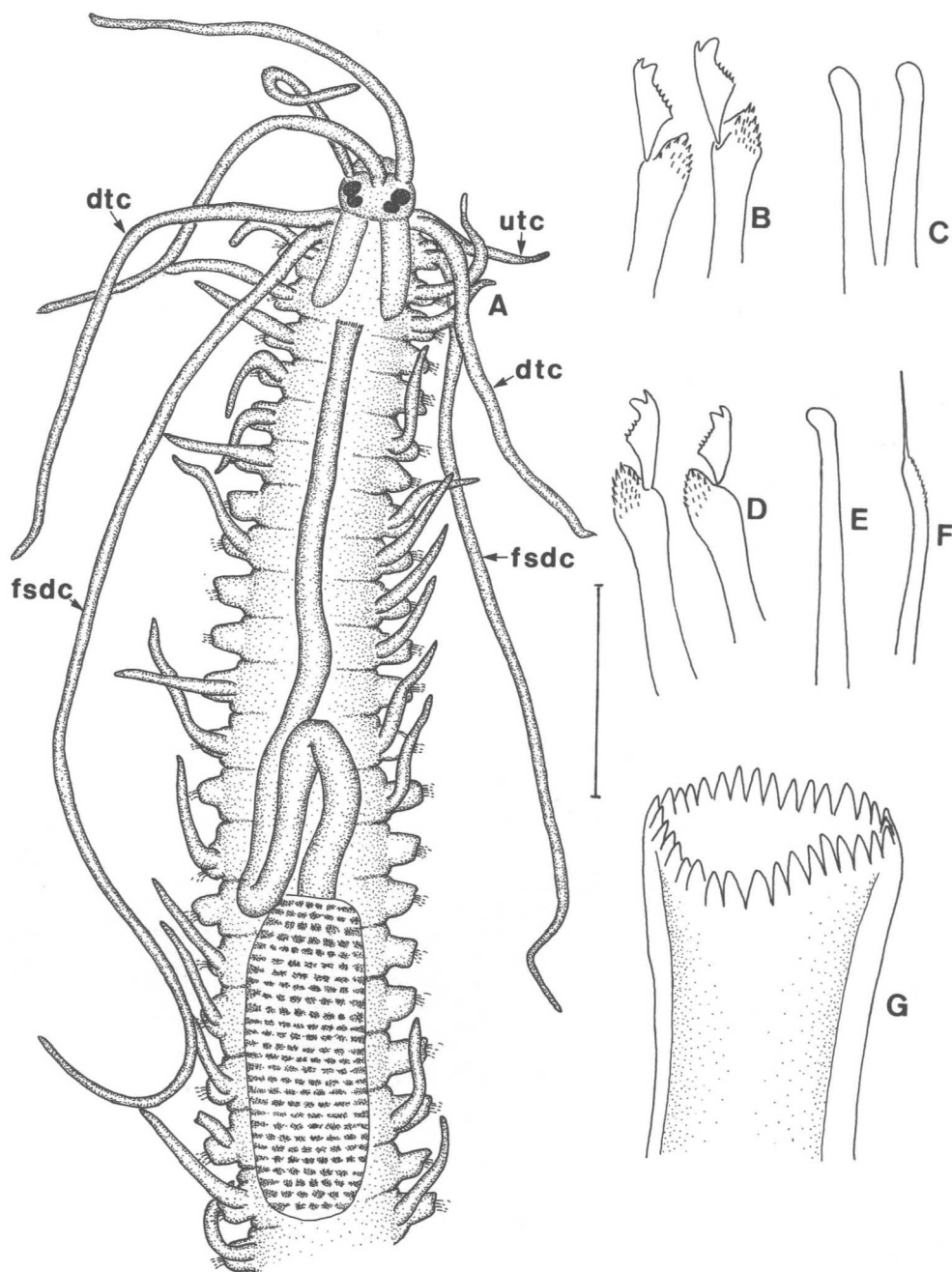


Figure 2. *Autolytus longoprimitiratus* n. sp. A. Anterior end, dorsal view (dtc = dorsal tentacular cirrus; utc = ventral tentacular cirrus; fsdc = first setiger dorsal cirrus). B. Compound setae, anterior parapodium. C. Acicula, same parapodium. D. Compound setae, median-posterior parapodium. E. Aciculum, same parapodium. F. Bayonet shaped dorsal simple seta, same parapodium. G. Trepan. Scale.—A = 0.5 mm; B–F = 20  $\mu$ m; G = 48  $\mu$ m.

**Etymology.**—The specific name refers to the great length of the dorsal cirri of the first setiger.

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